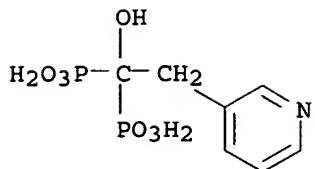


10/531,877

STN Structure Search  
9/7/06

=> d ibib abs hitstr 1-4

L3 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2006:114482 CAPLUS  
DOCUMENT NUMBER: 144:239571  
TITLE: The role of TG/DTA in the initial evaluation of the solid state forms for pharmaceutical new chemical entities part II: evaluation of mixed forms  
AUTHOR(S): Collins, Wendy J.; Dicks, Michael L.; Redman-Furey, Nancy L.; Godlewski, Jane; Vaughn, Dana C.  
CORPORATE SOURCE: P+G Pharmaceuticals, Inc., Norwich, NY, 13815, USA  
SOURCE: Proceedings of the NATA Annual Conference on Thermal Analysis and Applications (2003), 31st, 090/1-090/8  
CODEN: PNACCS  
PUBLISHER: NATAS  
DOCUMENT TYPE: Journal; (computer optical disk)  
LANGUAGE: English  
AB TG/DTA plays a central role in the strategy outlined for early evaluation of the solid state forms available to pharmaceutical new chemical entities. At this stage of development, compound and time are often at a premium so a successful strategy requires making the best possible use of the materials and time available. In addition, because of time and compound limitations, the goal of the solid state investigation at this stage focuses upon early stage objectives rather than development of a complete understanding of all available solid state forms. Examples of the test strategies developed in the authors' laboratory are provided. When mixed forms were present within individual samples, TG/DTA in combination with light microscopy and powder X-ray diffraction provided evidence that samples represented mixed solid state forms. The initial assessment was made using as little as 5 mg of sample. Hygroscopicity challenges provided further proof for mixed forms. To make a definite assignment of the solid state forms present, isolation of pure phases of the suspected individual forms was necessary. Success of the testing strategy is illustrated using an example of mixed salt stoichiometry and mixed hydration states. A hierarchy is suggested for efficient isolation efforts when a complex mixture of solid state samples is present. Use of this strategy demonstrates the ability of TG/DTA in combination with XRPD and hygroscopicity studies to unequivocally identify solid state forms within a complex mixture  
IT 353228-19-0, Risedronate sodium hydrate  
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(TG/DTA combined with light microscopy and XRPD enabled early detection of solid state mixed forms and provided information regarding nature and level of hydration of risedronate like monosodium monohydrate, hemi-pentahydrate and free acid)  
RN 353228-19-0 CAPLUS  
CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis-, monosodium salt, monohydrate (9CI) (CA INDEX NAME)



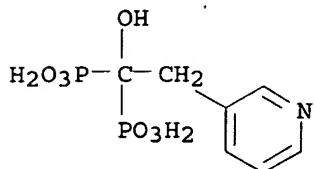
● Na

● H<sub>2</sub>O

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005:1174909 CAPLUS  
 DOCUMENT NUMBER: 144:280250  
 TITLE: The role of TGA-DTA in the initial evaluation of the solid state forms for pharmaceutical new chemical entities, part 2: Evaluation of mixed forms  
 AUTHOR(S): Redman-Furey, Nancy L.; Dicks, Michael L.; Godlweski, Jane; Vaughn, Dana C.; Collins, Wendy J.  
 CORPORATE SOURCE: P and G Pharmaceuticals, Inc., Norwich, NY, 13815, USA  
 SOURCE: Journal of ASTM International (2005), 2(1), No pp. given  
 CODEN: JAIOAD  
 URL: <http://journalsip.astm.org/DOWNLOAD/JAI12792.27924-1.pdf>  
 PUBLISHER: ASTM International  
 DOCUMENT TYPE: Journal; (online computer file)  
 LANGUAGE: English  
 AB TGA-DTA plays a central role in the strategy outlined for early evaluation of the solid state forms available to pharmaceutical new chemical entities. Understanding of the solid state forms becomes more difficult when individual samples present as mixed forms, especially when it is not immediately recognized that the samples represent a mixture. In this study, TGA-DTA, in combination with light microscopy and powder X-ray diffraction, provided immediate evidence that samples represented mixed solid state forms. The initial assessment was made using as little as 5 mg of sample. Hygroscopicity challenges provided further proof for mixed forms. To make a definite assignment of the solid state forms present, isolation of pure phases of the suspected individual forms was necessary. Success of this testing strategy is illustrated using an example of mixed salt stoichiometry and mixed hydration states. A hierarchy is suggested for efficient isolation efforts when a complex mixture of solid state samples is present.  
 IT 353228-19-0  
 RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (TGA-DTA detected presence of channel and lattice hydrate types, their inter-conversion and mixed solid state forms for Risedronate suggesting its utility in evaluation of solid state forms for pharmaceutical new chemical entity)  
 RN 353228-19-0 CAPLUS

CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis-, monosodium salt, monohydrate (9CI) (CA INDEX NAME)



● Na

● H<sub>2</sub>O

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2005:300227 CAPLUS  
 DOCUMENT NUMBER: 142:341951  
 TITLE: Pharmaceutical formulation of bisphophonates with improved stability  
 INVENTOR(S): Lulla, Amar; Malhotra, Geena  
 PATENT ASSIGNEE(S): Cipla Limited, India; Wain, Christopher Paul  
 SOURCE: PCT Int. Appl., 20 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005030177	A2	20050407	WO 2004-GB4146	20040929
WO 2005030177	A3	20051222		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004275569	A1	20050407	AU 2004-275569	20040929
CA 2540488	AA	20050407	CA 2004-2540488	20040929
EP 1680092	A2	20060719	EP 2004-768689	20040929
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
PRIORITY APPLN. INFO.:			IN 2003-MU1023	A 20030929
			WO 2004-GB4146	W 20040929
AB There is provided an oral formulation which includes an intragranular phase comprising a bisphosphonic acid derivative and at least one carbohydrate				

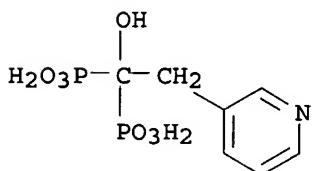
alc., together with an aqueous binder. There are also provided a process of preparing the same and a therapeutic method employing such a formulation in the treatment of various skeletal diseases, such as systemic bone diseases including osteoporosis, osteoarthritis, Paget's disease, osteomalacia, multiple myeloma, and other forms of cancer, steroid therapy wherein the skeletal system is effected and age-related loss of bone mass, local disorders such as bone fractures and other such related disorders. For example, tablets were formulated containing alendronate Na trihydrate 35, microcryst. cellulose 57.5, mannitol 58.32, starch 1.5, Mg stearate 2, and Na starch glycollate 8.9 mg.

IT 353228-19-0

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(oral compns. containing intragranular phase of bisphosphonate and sugar  
alcs.)

RN 353228-19-0 CAPLUS

CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis-, monosodium salt, monohydrate (9CI) (CA INDEX NAME)



● Na

● H<sub>2</sub>O

L3 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2001:581839 CAPLUS  
 DOCUMENT NUMBER: 135:157693  
 TITLE: Selective crystallization of 3-pyridinyl-1-hydroxyethylidene-1,1-bisphosphonic acid sodium as the hemipentahydrate or monohydrate  
 INVENTOR(S): Cazer, Fredrick Dana; Perry, Gregory Eugene; Billings, Dennis Michael; Redman-Furey, Nancy Lee  
 PATENT ASSIGNEE(S): Procter + Gamble Company, USA  
 SOURCE: PCT Int. Appl., 12 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001056983	A2	20010809	WO 2001-US3336	20010201
WO 2001056983	A3	20020307		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU,			

ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,  
 BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2002002282 A1 20020103 US 2001-771825 20010129

US 6410520 B2 20020625

CA 2399976 AA 20010809 CA 2001-2399976 20010201

AU 2001034736 A5 20010814 AU 2001-34736 20010201

AU 784307 B2 20060309

BR 2001007921 A 20021022 BR 2001-7921 20010201

EP 1252170 A2 20021030 EP 2001-906880 20010201

EP 1252170 B1 20040818

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

JP 2003521532 T2 20030715 JP 2001-556833 20010201

NZ 519966 A 20040326 NZ 2001-519966 20010201

AT 273984 E 20040915 AT 2001-906880 20010201

RU 2236415 C2 20040920 RU 2002-123369 20010201

PT 1252170 T 20041231 PT 2001-906880 20010201

ES 2225481 T3 20050316 ES 2001-1906880 20010201

ZA 2002005090 A 20030207 ZA 2002-5090 20020625

NO 2002003645 A 20021001 NO 2002-3645 20020731

HK 1051046 A1 20050429 HK 2003-101833 20030313

PRIORITY APPLN. INFO.: US 2000-179505P P 20000201  
 WO 2001-US3336 W 20010201

AB The present invention discloses 3-pyridinyl-1-hydroxyethylidene-1,1-bisphosphonic acid sodium hemipentahydrate and monohydrate, (risedronate sodium hydrates) methods of preparing the hemipentahydrate or monohydrate through control of the nucleation temperature and rate of crystallization and pharmaceutical compns. containing 1 or both of the hydrate forms. An aqueous solution of risedronate sodium selective yields the monohydrate or the hemipentahydrate crystal forms depending upon the conditions of crystallization. The temperature of nucleation and the rate of crystallization govern the hydrate,

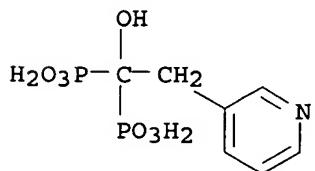
varying the ratio of water-iso-PrOH and the temperature

IT 353228-19-0P

RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);  
 BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (selective crystallization of pyridylhydroxyethylidenebisphosphonate as  
 hydrates)

RN 353228-19-0 CAPLUS

CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis-, monosodium salt, monohydrate (9CI) (CA INDEX NAME)



● Na

● H<sub>2</sub>O

10/531,877

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(FILE 'HOME' ENTERED AT 10:47:21 ON 07 SEP 2006)

FILE 'REGISTRY' ENTERED AT 10:47:48 ON 07 SEP 2006

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L2 1 S E2

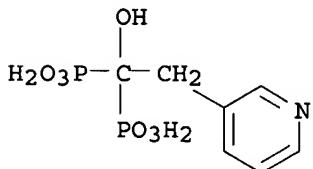
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L3 4 S L2

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L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN  
RN 353228-19-0 REGISTRY  
ED Entered STN: 28 Aug 2001  
CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis-, monosodium salt, monohydrate (9CI) (CA INDEX NAME)  
OTHER NAMES:  
CN Risedronate sodium hydrate  
MF C<sub>7</sub>H<sub>11</sub>N O<sub>7</sub>P<sub>2</sub>.H<sub>2</sub>O.Na  
SR CA  
LC STN Files: CA, CAPLUS, IMSPATENTS, USPAT2, USPATFULL  
CRN (105462-24-6)



● Na

● H<sub>2</sub>O

4 REFERENCES IN FILE CA (1907 TO DATE)  
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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L6 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:114482 CAPLUS

DOCUMENT NUMBER: 144:239571

TITLE: The role of TG/DTA in the initial evaluation of the solid state forms for pharmaceutical new chemical entities part II: evaluation of mixed forms

AUTHOR(S): Collins, Wendy J.; Dicks, Michael L.; Redman-Furey,

10/531,877

CORPORATE SOURCE: Nancy L.; Godlewski, Jane; Vaughn, Dana C.  
P+G Pharmaceuticals, Inc., Norwich, NY, 13815, USA  
SOURCE: Proceedings of the NATA Annual Conference on Thermal  
Analysis and Applications (2003), 31st, 090/1-090/8  
CODEN: PNACCS

PUBLISHER: NATAS  
DOCUMENT TYPE: Journal; (computer optical disk)  
LANGUAGE: English

AB TG/DTA plays a central role in the strategy outlined for early evaluation of the solid state forms available to pharmaceutical new chemical entities. At this stage of development, compound and time are often at a premium so a successful strategy requires making the best possible use of the materials and time available. In addition, because of time and compound limitations, the goal of the solid state investigation at this stage focuses upon early stage objectives rather than development of a complete understanding of all available solid state forms. Examples of the test strategies developed in the authors' laboratory are provided. When mixed forms were present within individual samples, TG/DTA in combination with light microscopy and powder X-ray diffraction provided evidence that samples represented mixed solid state forms. The initial assessment was made using as little as 5 mg of sample. Hygroscopicity challenges provided further proof for mixed forms. To make a definite assignment of the solid state forms present, isolation of pure phases of the suspected individual forms was necessary. Success of the testing strategy is illustrated using an example of mixed salt stoichiometry and mixed hydration states. A hierarchy is suggested for efficient isolation efforts when a complex mixture of solid state samples is present. Use of this strategy demonstrates the ability of TG/DTA in combination with XRPD and hygroscopicity studies to unequivocally identify solid state forms within a complex mixture

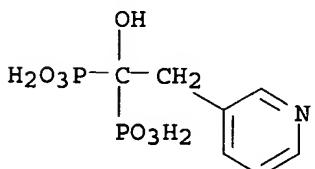
IT 115436-72-1, Risedronate Sodium

RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(TG/DTA combined with light microscopy and XRPD enabled early detection of solid state mixed forms and provided information regarding nature and level of hydration of risedronate like monosodium monohydrate, hemi-pentahydrate and free acid)

RN 115436-72-1 CAPLUS

CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis-, monosodium salt (9CI) (CA INDEX NAME)



● Na

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:96118 CAPLUS

DOCUMENT NUMBER: 144:419282

TITLE: Monitoring hydration state conversion by TGA-DTA

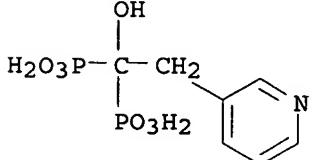
AUTHOR(S): Poiesz, Kate B.; Grundner, Carol L.; Redman-Furey,

10/531,877

Nancy L.  
CORPORATE SOURCE: Procter & Gamble Pharmaceuticals, Inc., Norwich, NY,  
13815, USA  
SOURCE: Proceedings of the NATAS Annual Conference on Thermal  
Analysis and Applications (2005), 33rd,  
105.37.255/1-105.37.255/10  
CODEN: PNACCS  
PUBLISHER: NATAS  
DOCUMENT TYPE: Journal; (computer optical disk)  
LANGUAGE: English

AB Active pharmaceutical ingredients may crystallize in different polymorphic and/or hydration states. Differing solid state forms may express variation in key properties that impact performance attributes such as solubility, dissolv. rate, and stability. Depending upon formulation needs, the thermodynamically most stable form may not be chosen for manufacture of the final drug product. Under these circumstances, it is important to understand the relative stability of the metastable form under anticipated long-term storage conditions. Hydrates require an addnl. level of concern in regards to potential phase changes. Like polymorphs, the concern exists for a change in property, such as solubility (and subsequent altering of dissolv. rate), upon change in hydrate form. But unlike polymorphic changes, a change in hydration state may also result in release of water into a formulation (change to lower hydration state) or the robbing of available water from a formulation (change to a higher hydration level). Changes in water distribution within a formulation may result in unexpected changes in tablet hardness or ability to release, cause capsule brittleness, or decrease formulation stability. Understanding the parameters necessary for long-term maintenance of a metastable hydrate is clearly of importance to the design of a stable formulation. TGA-DTA is an effective tool for monitoring changes in hydration state. TGA-DTA can quantitate total water content and illustrate hydrate type in a single experiment with only a few milligrams of sample. KF, LOD, or NIRA can monitor water content but not identify phase. XRD may be used to assess hydrate type but is not necessarily quant. Solid State NMR may identify phase and quantitate water content but requires an order of magnitude more sample and a training set of samples to establish a calibration curve.

IT 115436-72-1, Risedronate sodium  
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES  
(Uses)  
(monitoring hydration state conversion by TGA-DTA)  
RN 115436-72-1 CAPLUS  
CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis-, monosodium salt (9CI) (CA INDEX NAME)

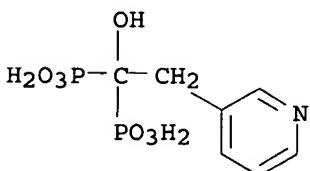


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REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

10/531,877

ACCESSION NUMBER: 2005:1174909 CAPLUS  
DOCUMENT NUMBER: 144:280250  
TITLE: The role of TGA-DTA in the initial evaluation of the solid state forms for pharmaceutical new chemical entities, part 2: Evaluation of mixed forms  
AUTHOR(S): Redman-Furey, Nancy L.; Dicks, Michael L.; Godlweski, Jane; Vaughn, Dana C.; Collins, Wendy J.  
CORPORATE SOURCE: P and G Pharmaceuticals, Inc., Norwich, NY, 13815, USA  
SOURCE: Journal of ASTM International (2005), 2(1), No pp. given  
CODEN: JAIOAD  
URL: <http://journalsip.astm.org/DOWNLOAD/JAI12792.27924-1.pdf>  
PUBLISHER: ASTM International  
DOCUMENT TYPE: Journal; (online computer file)  
LANGUAGE: English  
AB TGA-DTA plays a central role in the strategy outlined for early evaluation of the solid state forms available to pharmaceutical new chemical entities. Understanding of the solid state forms becomes more difficult when individual samples present as mixed forms, especially when it is not immediately recognized that the samples represent a mixture. In this study, TGA-DTA, in combination with light microscopy and powder X-ray diffraction, provided immediate evidence that samples represented mixed solid state forms. The initial assessment was made using as little as 5 mg of sample. Hygroscopicity challenges provided further proof for mixed forms. To make a definite assignment of the solid state forms present, isolation of pure phases of the suspected individual forms was necessary. Success of this testing strategy is illustrated using an example of mixed salt stoichiometry and mixed hydration states. A hierarchy is suggested for efficient isolation efforts when a complex mixture of solid state samples is present.  
IT 115436-72-1, Risedronate sodium  
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(TGA-DTA detected presence of channel and lattice hydrate types, their inter-conversion and mixed solid state forms for Risedronate suggesting its utility in evaluation of solid state forms for pharmaceutical new chemical entity)  
RN 115436-72-1 CAPLUS  
CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis-, monosodium salt (9CI) (CA INDEX NAME)



● Na

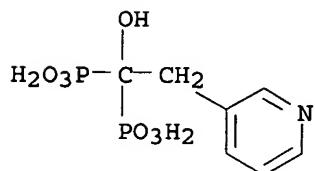
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2005:823715 CAPLUS  
DOCUMENT NUMBER: 143:212018

10/531,877

TITLE: Preparation of stable crystalline form of monosodium risedronate hydrate  
INVENTOR(S): Richter, Jindrich; Jirman, Josef  
PATENT ASSIGNEE(S): Zentiva, A.S., Czech Rep.  
SOURCE: PCT Int. Appl., 14 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005075487	A1	20050818	WO 2005-CZ12	20050204
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.: AB 3-pyridyl-1-hydroxyethylidene-1,1-bisphosphonate hydrate	CZ 2004-199	A 20040205		
IT 115436-72-1P, Risedronic acid monosodium salt				
RN 115436-72-1 CAPLUS	RL: SPN (Synthetic preparation); PREP (Preparation)			
CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis-, monosodium salt (9CI) (CA INDEX NAME)	(crystalline modification; preparation of stable crystalline modification of monosodium 3-pyridinyl 1-hydroxyethylidene 1,1-bisphosphonate hydrate)			



● Na

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

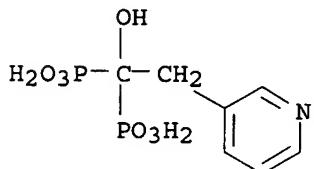
L6 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2005:314094 CAPLUS  
DOCUMENT NUMBER: 143:292160

10/531,877

TITLE: Structural and analytical characterization of three hydrates and an anhydrate form of risedronate  
AUTHOR(S): Redman-Furey, Nancy; Dicks, Michael; Bigelow-Kern, Adrienne; Cambron, R. Thomas; Lubey, Gwen; Lester, Cathy; Vaughn, Dana  
CORPORATE SOURCE: Procter and Gamble Pharmaceuticals, Inc., Norwich, NY, 13815, USA  
SOURCE: Journal of Pharmaceutical Sciences (2005), 94(4), 893-911  
CODEN: JPMSAE; ISSN: 0022-3549  
PUBLISHER: Wiley-Liss, Inc.  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Four hydration states are reported for Risedronate monosodium. A single-crystal x-ray structure determination is provided as proof of assignment for the monohydrate, hemi-pentahydrate, and variable hydrate forms. The structure provided for the anhydrate form was determined through simulating annealing calcns. and subsequent Reitveld refinement of a high-quality x-ray powder diffraction patterns. Favorable comparisons of exptl. obtained x-ray powder patterns are made to those generated from the single crystal data. Characteristic IR, Raman, and NMR spectra are provided and discussed for each form as are thermal anal. profiles. In addition, photomicrographs are provided for each of the forms isolated for this study. The hemi-pentahydrate is demonstrated to be the equilibrium form at room temperature and 37°, in the presence of water.

IT 115436-72-1, Risedronate sodium  
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(structural and anal. characterization of three hydrates and an anhydrate form of risedronate)  
RN 115436-72-1 CAPLUS  
CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis-, monosodium salt (9CI) (CA INDEX NAME)



● Na

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

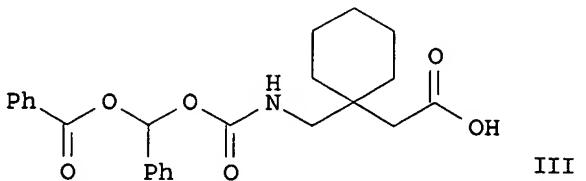
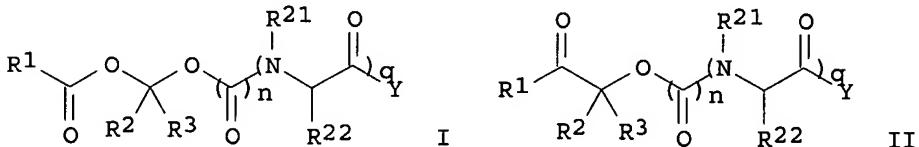
L6 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2003:717749 CAPLUS  
DOCUMENT NUMBER: 139:245676  
TITLE: Methods for synthesis of 1-(acyloxy)alkyl carbamates and analogs as prodrugs from 1-acylalkyl derivatives and compositions thereof  
INVENTOR(S): Gallop, Mark A.; Xiang, Jia-Ning; Yao, Fenmei; Bhat, Laxminarayan; Zhou, Cindy X.  
PATENT ASSIGNEE(S): Xero Port, Inc., USA  
SOURCE: U.S. Pat. Appl. Publ., 34 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent

10/531,877

LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003171303	A1	20030911	US 2002-167797	20020611
US 6927036	B2	20050809		
WO 2003077902	A1	20030925	WO 2002-US18691	20020611
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002316231	A1	20030929	AU 2002-316231	20020611
EP 1485082	A1	20041215	EP 2002-746514	20020611
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2005239725	A1	20051027	US 2005-158405	20050621
PRIORITY APPLN. INFO.:			US 2002-358603P	P 20020219
			US 2002-371535P	P 20020409
			US 2002-167797	A3 20020611
			WO 2002-US18691	W 20020611

OTHER SOURCE(S): CASREACT 139:245676; MARPAT 139:245676  
GI

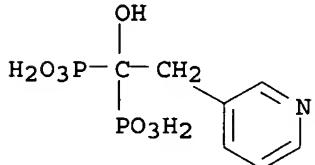


AB The present invention provides a method for synthesizing 1-(acyloxy)alkyl derivs. I from 1-acylalkyl derivs. II [wherein n = 0-1; q = 0-1; provided that n and q = 0 unless Y = NRR' or OR; Y = NRR', OR, COR, PO(OR')R, or PO(OR')(OR); NRR', OR, COR, PO(OR')R, or PO(OR')(OR) = groups derived from drugs containing the indicated functional groups, with provisos; R<sup>1</sup> = H or (un)substituted alkyl, (hetero)cycloalkyl, (hetero)arylalkyl, or a C23 bile acid moiety; R<sup>2</sup> and R<sup>3</sup> = independently H or (un)substituted (cyclo)alkyl, (cyclo)alkoxycarbonyl, aryl(alkyl), carbamoyl, or heteroaryl(alkyl); or R<sup>1</sup> and either R<sup>2</sup> or R<sup>3</sup> may join together with the atoms to which they are attached to form an (un)substituted (hetero)cycloalkyl ring optionally fused to a (hetero)aryl or (hetero)cycloalkyl ring; or CR<sup>2</sup>R<sup>3</sup> = (un)substituted (hetero)cycloalkyl; R<sup>21</sup> = independently H or (un)substituted alkyl; R<sup>22</sup> = independently H or

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(un)substituted (cyclo)alkyl, alkoxy(carbonyl), acyl, alkylamino, alkylthio, carbamoyl, aryl(alkyl), heteroaryl(alkyl), etc.; or pharmaceutically acceptable salts, hydrates, or solvates thereof]. The method typically proceeds stereospecifically, in high yield, does not require the use of activated intermediates and/or toxic compds., and is readily amenable to scale-up. The invention also provides 1-acylalkyl derivs. of known drug compds. and methods for synthesizing these 1-acylalkyl derivs. I and compns. thereof are useful as prodrugs (no data). For example, coupling of benzoin with p-nitrophenyl chloroformate using DMAP in CH<sub>2</sub>Cl<sub>2</sub>, followed by the addition of gabapentin in the presence of TEA and TMSCl CH<sub>2</sub>Cl<sub>2</sub> gave 1-[( $\alpha$ -benzoylbenzyloxy)carbonyl]aminomethyl]-1-cyclohexaneacetic acid (90% over two steps). Oxidation with mCPBA in CH<sub>2</sub>Cl<sub>2</sub> provided the  $\alpha$ -(benzoyloxy)benzyl carbamate III (47%).

IT 115436-72-1DP, NE 58095, prodrug derivative  
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of alkoxyalkyl carbamates and analogs as prodrugs by oxidation of acylalkyl derivs.)  
RN 115436-72-1 CAPLUS  
CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis-, monosodium salt (9CI) (CA INDEX NAME)



● Na

REFERENCE COUNT: 68 THERE ARE 68 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2003:252364 CAPLUS  
DOCUMENT NUMBER: 139:202652  
TITLE: Thermoanalytical characterization of the hydration states of risedronate  
AUTHOR(S): Redman-Furey, Nancy L.; Collins, Wendy J.; Burgin, Matthew A.  
CORPORATE SOURCE: Procter & Gamble Pharmaceuticals, Inc., Norwich, NY, 13464, USA  
SOURCE: Proceedings of the NATA Annual Conference on Thermal Analysis and Applications (2002), 30th, 733-738  
CODEN: PNACCS  
PUBLISHER: NATA  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Risedronate, the active pharmaceutical ingredient in Actonel, is manufactured as the hemi-pentahydrate. In addition to the hemi-pentahydrate, monohydrate and anhydrate forms of the drug were isolated. Each of these hydrate forms displayed a unique thermoanal. signature by both TGA and DSC. The appearance of the TGA and DSC thermal curves for the hemi-pentahydrate form is highly dependent upon exptl. parameters such as scan rate and sample pan venting. Most of this dependence can be

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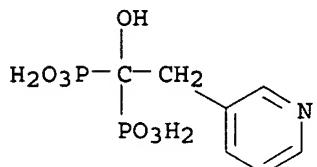
explained by the channel nature of a portion of the water of hydration of the hemi-pentahydrate and the fact that under some conditions, a conversion from hemi-pentahydrate to monohydrate occurred during the thermoanal. experiment

IT 115436-72-1, Actonel

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(thermoanal. characterization of hydration states of risedronate)

RN 115436-72-1 CAPLUS

CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis-, monosodium salt (9CI) (CA INDEX NAME)



● Na

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:791345 CAPLUS

DOCUMENT NUMBER: 138:162724

TITLE: Sodium risedronate hydrate

AUTHOR(S): Kushida, Kazuhiro

CORPORATE SOURCE: Dep. Orthopaedic Surg., Hamamatsu Univ. Sch. Med., Japan

SOURCE: Rinsho to Yakubutsu Chiryo (2002), 21(10), 1040-1041  
CODEN: RYCHEI; ISSN: 0913-7505

PUBLISHER: Eruzebia-Saiensu K.K. Mikusu

DOCUMENT TYPE: Journal; General Review

LANGUAGE: Japanese

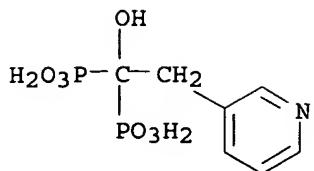
AB A review. After comparing sodium risedronate hydrate, a drug for treatment of osteoporosis, with existing analogs, the knack of its usage and precaution against its side effects were briefly discussed.

IT 115436-72-1

RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(sodium risedronate hydrate for treatment of osteoporosis)

RN 115436-72-1 CAPLUS

CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis-, monosodium salt (9CI) (CA INDEX NAME)



● Na

L6 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2001:581839 CAPLUS  
 DOCUMENT NUMBER: 135:157693  
 TITLE: Selective crystallization of 3-pyridinyl-1-hydroxyethylidene-1,1-bisphosphonic acid sodium as the hemipentahydrate or monohydrate  
 INVENTOR(S): Cazer, Fredrick Dana; Perry, Gregory Eugene; Billings, Dennis Michael; Redman-Furey, Nancy Lee  
 PATENT ASSIGNEE(S): Procter + Gamble Company, USA  
 SOURCE: PCT Int. Appl., 12 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001056983	A2	20010809	WO 2001-US3336	20010201
WO 2001056983	A3	20020307		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2002002282	A1	20020103	US 2001-771825	20010129
US 6410520	B2	20020625		
CA 2399976	AA	20010809	CA 2001-2399976	20010201
AU 2001034736	A5	20010814	AU 2001-34736	20010201
AU 784307	B2	20060309		
BR 2001007921	A	20021022	BR 2001-7921	20010201
EP 1252170	A2	20021030	EP 2001-906880	20010201
EP 1252170	B1	20040818		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003521532	T2	20030715	JP 2001-556833	20010201
NZ 519966	A	20040326	NZ 2001-519966	20010201
AT 273984	E	20040915	AT 2001-906880	20010201
RU 2236415	C2	20040920	RU 2002-123369	20010201
PT 1252170	T	20041231	PT 2001-906880	20010201
ES 2225481	T3	20050316	ES 2001-1906880	20010201
ZA 2002005090	A	20030207	ZA 2002-5090	20020625
NO 2002003645	A	20021001	NO 2002-3645	20020731
HK 1051046	A1	20050429	HK 2003-101833	20030313

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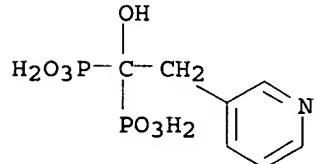
PRIORITY APPLN. INFO.: US 2000-179505P P 20000201  
WO 2001-US3336 W 20010201

AB The present invention discloses 3-pyridinyl-1-hydroxyethylidene-1,1-bisphosphonic acid sodium hemipentahydrate and monohydrate, (risedronate sodium hydrates) methods of preparing the hemipentahydrate or monohydrate through control of the nucleation temperature and rate of crystallization and pharmaceutical compns. containing 1 or both of the hydrate forms. An aqueous solution of risedronate sodium selective yields the monohydrate or the hemipentahydrate crystal forms depending upon the conditions of crystallization. The temperature of nucleation and the rate of crystallization govern the hydrate, varying the ratio of water-iso-PrOH and the temperature.

IT 115436-72-1, Risedronate sodium  
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
(selective crystallization of pyridylhydroxyethylidenebisphosphonate as hydrates)

RN 115436-72-1 CAPLUS

CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis-, monosodium salt (9CI) (CA INDEX NAME)



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(FILE 'HOME' ENTERED AT 10:47:21 ON 07 SEP 2006)

FILE 'REGISTRY' ENTERED AT 10:47:48 ON 07 SEP 2006  
E RISEDRONIC/CN

L1 1 S E5  
L2 1 S E2

FILE 'CAPLUS' ENTERED AT 10:50:42 ON 07 SEP 2006  
L3 4 S L2

FILE 'REGISTRY' ENTERED AT 10:51:33 ON 07 SEP 2006

FILE 'CAPLUS' ENTERED AT 10:51:34 ON 07 SEP 2006

L4 81 S L1  
L5 149996 S HYDRATE?  
L6 9 S L4 AND L5

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